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## FOODS AND NUTRITION

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**TOPIC #17:** Nutrition Strategies

**TIME PERIOD:** 1-2 Days

**CORE STANDARD #4:** Careers: The students will explore careers related to family and consumer sciences, identifying skills which are applicable for both the home and the school/workplace, and the impact of career choices on family lifestyles.

**OBJECTIVE:** Students will study the food pyramid, the U.S.D.A. dietary guidelines, and the basic types of nutrients, and then demonstrate the use of this information by assessing the nutritional qualities (value) of various foods.

**INDEPENDENT LIVING SKILLS (COMPETENCIES):**

- |              |  |
|--------------|--|
| 20.0001-0447 | Name the parts of the food pyramid.    |
| 20.0001-0415 | Name the seven dietary guidelines.     |
| 20.0001-0416 | List the six basic types of nutrients. |
| 20.0001-0414 | Define nutrition terms.                |
| 20.0001-0419 | Analyze foods for nutritional value.   |
| 20.0001-0418 | Identify careers related to nutrition. |

- LIFE SKILLS:**
- \* Lifelong Learning
  - \* Complex Thinking
  - \* Effective Communication
  - \* Collaboration
  - \* Responsible Citizenship
  - \* Employability

**RELATED CAREERS:**

Family and Consumer Sciences  
Professional  
Extension Agent  
Diet Counselor

**OCCUPATIONAL CLUSTER:**

Social-Humanitarian/Education-Government;  
Family and Consumer Sciences  
Social-Humanitarian/Education-Government; FACS  
Scientific/Medical; Family and Consumer Sciences

## TOPIC #17: Nutrition Strategies

## Teacher Information

**LIST OF STUDENT ACTIVITIES:**

- ▶ 1. Nutrition Strategies:
  - Food Pyramid
  - Dietary Guidelines
  - Six Basic Nutrients
2. Pyramid Pizzazz
3. Dietary Cartoons
4. Nutritious Meal Lab Experience
  - Stir Fry
5. Nutritive Evaluation of Stir Fry
6. Nutritious Snack Lab Experience
  - Popcorn
7. Nutritive Evaluation of Popcorn Recipes
8. Identification of Related Careers

**SUPPLIES REQUIRED:**

- Food pyramid pieces (17.17-17.23)  
 Dietary guidelines (17.31-17.37)  
 Nutrition terms (17.38-17.46)  
 Six basic nutrients (17.48-17.53)  
 Large wall area or equivalent  
 Heavy cord, ribbon, or bias tape  
 Copies of student activity guide (17.54)
- Copies of student activity guide (17.56)
- Cartoon-making supplies
- Copies of recipe and lab sheet for students (17.57-17.58)
- Copies of student activity guide (17.59)
- Hot air popcorn popper  
 Popcorn  
 Copies of recipes and lab sheet for students (17.60-17.65, 17.66)  
 Recipe ingredients  
 5-6 cups of popped popcorn per unit
- Overhead transparencies (17.67, 17.69)  
 Overhead projector  
 Copies of student activity guide for each student (17.68)
- Career information (17.70-17.71)  
 Career posters (17.72-17.74)

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## PROCEDURE

**CONCEPT:** Food is the fuel our bodies need to keep them in working order. The food pyramid and the dietary guidelines were developed to help us select foods that keep our bodies functioning at peak performance level.

**NOTE:** In this topic, various nutrition strategies and information will be built around the food pyramid, depicting an integration of theories and/or concepts. The food pyramid and the dietary guidelines, although different in approach, support the concepts of each other. By adhering to the food pyramid recommendations and following the dietary guidelines, a person will automatically have an adequate intake of the six basic nutrients. Students should be familiar with both concepts and how to apply them when making food choices.

### ➤ 1. **NUTRITION STRATEGIES**

The nutrition strategies to be covered in this topic are the:

- food pyramid
- dietary guidelines
- six basic nutrients

To simplify, streamline, and mesh these strategies, use the diagram on page 17.55 as a guide for covering the materials. The teacher will need a large wall area or surface to place the pieces for each strategy as they are covered. Patterns for all of the visuals needed are provided in this topic.

Begin by introducing (or reviewing) the food pyramid. Place the sections of the food pyramid on the large wall area or surface as the material is covered. Discuss the types and groups of food in each section, why they are necessary for a balanced diet and good health, etc. Some teacher background information is provided on page 17.16.

Then introduce the need for dietary guidelines by asking the following questions and generating responses and/or discussion:

- a. How do you feel when you miss a meal? (Tired, sleepy, unable to concentrate, confused, stomach pains, etc.)
- b. What do you suppose happens to your body when you skip meals? (Lack of fuel slows body functions; some areas may "shut down" so that other body parts may maintain their function. Growth may be slowed because food energy is used for maintaining life rather than growth.)

*TOPIC #17: Nutrition Strategies**Teacher Information*

- c. Name some reasons why people skip meals. (Lack of preparation time, food preferences, schedule conflicts with family routine, oversleeping, too many between-meal snacks, false concepts about dieting and weight control.)
- d. What do you think it would be like to starve? Is there a problem with starvation in America? (While there ARE some Americans who go hungry, there are many more who suffer from a different form of malnutrition. The biggest health problem in the United States is the kind of foods we eat. Many Americans eat too much of the wrong foods, such as sweets and high calorie desserts, and omit foods which are needed for good health.)

Because of the poor eating habits of many Americans, the government developed a set of dietary guidelines. Using the teacher background information provided (pages 17.24-17.30), introduce the guidelines explaining the purposes and necessity for each guideline as well as some of the terms used and their definitions (pages 17.38-17.46).

After the food pyramid and dietary guidelines are displayed and discussed, add the six basic nutrients to the picture. Place these around the other items, and using pieces of cord, ribbon, or bias tape, connect the nutrient stars to the food groups which supply each nutrient. See if the students can make the connections between food groups and nutrients. Some teacher background information is provided on page 17.47.

During the course of this presentation, students can complete the student activity guide, NUTRITION STRATEGIES (page 17.54), if desired. After some time for learning and review, students could be given a blank copy of the student activity guide to fill in as a test for evaluation.

**2. PYRAMID PIZZAZ**

Have the students complete the student activity guide, PYRAMID PIZZAZ (page 17.56). This can be done at the beginning of the class period each day or can be used as a home assignment.

**3. DIETARY CARTOONS**

Divide the class into groups by the pyramid sections. Have each student draw a one- to three-frame cartoon depicting a food pyramid group and incorporating at least one dietary guideline that supports it. Ask the students to identify the main nutrients found in the group of foods they are working with. Upon completion, have the students share the cartoons with the other class members.

An alternate option is to give each group a dietary guideline and a section of the food pyramid and have the group plan a brief presentation for the class, supplying information in a way that other students will know how to use the guideline.

**4. NUTRITIOUS MEAL LAB EXPERIENCE - STIR FRY**

Using the recipe on page 17.57 as a guide, have the students make the stir fry. For variations and comparisons of taste and nutrients, have different groups add different ingredients.

**5. NUTRITIVE EVALUATION OF STIR FRY**

Using the student activity guide on page 17.59 as a guide, discuss the food groups included in this recipe, the dietary guidelines that have been incorporated, and which of the six basic nutrients are included. Let the students rate the healthiness of the recipe.

**6. NUTRITIOUS SNACK LAB - POPCORN**

Begin the lab by preparing a batch of popcorn in a hot air popper. During the popcorn cooking process, discuss and/or reinforce some of the food science and/or nutritious principles involved, such as:

- popcorn is 13.5 percent moisture, which the heat changes into steam, and the hard kernel keeps in the moisture until the steam builds up and the pressure finally bursts the shell
- popcorn is a special type of corn grown for popping; not every kind of corn will pop
- popping the corn in hot air popper reduces the number of calories that are often added by cooking the popcorn in oil (thus allowing the consumer to make nutritional choices)
- adding salt after the corn is popped allows the consumer another flavor choice
- many types of additional flavoring add a lot of salt and/or sugar to the basic popcorn and may defeat the basic nutritional value of popcorn
- popcorn can be a nutritious snack—it can be prepared in a variety of ways to better meet the dietary guidelines

After the popcorn is completed, allow each group of students to make one of the recipes provided on pages 17.60-17.65.



### 7. **NUTRITIVE EVALUATION OF POPCORN RECIPES**

- A. Referring to the popcorn recipes used in the previous activity, compare the nutritive values of the various types of popcorn according to the information on the overhead transparency, NUTRITIVE VALUES OF POPCORN (page 17.67).
- B. Give each student a copy of the student activity guide, HAVE IT YOUR WAY (page 17.68), and have them complete the guide according to the directions given. When the students have finished, use an overhead transparency of page 17.69 to reveal the correct answers. Allow the students to correct their papers while you discuss the evaluation. Also, discuss the answers to the questions at the bottom of the page.
- C. Looking at the nutritional information on their papers and/or the overhead transparency, have the class decide which of the popcorn recipes is the most nutritious, second most nutritious, etc.

### 8. **IDENTIFICATION OF RELATED CAREERS**

Using the career information provided (pages 17.70-17.71) and the career posters (pages 17.72-17.74), identify some of the specific careers related to the use of the food pyramid and dietary guidelines.

#### **SUMMARY:**

The food pyramid and the dietary guidelines were developed to help people choose foods that maintain optimum health. Nutrient dense foods contain a higher percentage of nutrients than calories. Eating a variety of nutrient dense foods promotes good health. Each nutrient performs a specific function. Nutritional analysis is useful in planning well-balanced meals and making food choices.

#### **TEACHER RESOURCES:**

Textbook: Chamberlain, Valerie M., Teen Guide, 1990, Oklahoma City, OK, Webster Division: McGraw Hill.

Videos: Learning Seed, Eating for Life: The Nutrition Pyramid, 330 Telser Road, Lake Zurich, IL 60047. 1-800-634-4941. 22 minutes

Dairy Council of Utah, The New Nutrition Pyramid, 1213 East 2100 South, Salt Lake City, UT 84106, 801-487-9976. 13 minutes

Franklin Clay Films, Nuts and Bolts of Nutrition video; P. O. Box 2213, Costa Mesa, CA 92628



### CORE TEST QUESTION BANK

#### 17.0001-0447 *Name the parts of the food pyramid.*

1. We should eat SMALL AMOUNTS of the foods at the top and let the foods at the base form the BULK of our diet.
2. We should have 6 TO 11 servings of grain per day.
3. We should have 3 TO 5 servings of vegetables and 2 TO 4 servings of fruit per day.
4. We should have 2 TO 4 servings of milk or dairy products per day.
5. We should have 2 TO 3 servings of meat, eggs, nuts, or dry beans per day.
6. We should eat fats and sweets SPARINGLY.
7. CARBOHYDRATES are the most efficient body fuel on the planet!
8. Most fruits contain no fat; the exceptions are OLIVES and AVOCADOS.
9. Since cooking with water allows for some nutrient loss, make sure that you eat some RAW vegetables daily.
10. FRUITS can be called "Nature's Convenience Food." They can be eaten with washing being the only preparation necessary.
11. All of the foods from nuts to eggs and red meat to dry beans are important sources of PROTEIN.
12. A serving of meat is THREE lean ounces or about the size of a deck of playing cards.
13. By using the food pyramid as a guide in our selection of foods each day,
  - a. It is hard to eat a variety of foods
  - b.\* It is easy to eat a variety of foods
  - c. It is impossible to eat a good variety of foods
  - d. It is unnecessary to eat a good variety of foods

**CORE TEST QUESTION BANK - CONT.****17.0001-0415      *Name the seven dietary guidelines.***

1. The dietary guidelines were written to:
  - a. Set controls on how much we can eat
  - b.\* Help us know which foods to choose and avoid to keep our bodies at peak performance
  - c. Help keep people from starving in the United States
  
2. It is important to eat a variety of foods because:
  - a.\* It is difficult to get all the nutrients we need from one or two foods
  - b. People have to buy more groceries and it helps the farmers
  - c. That's what we learned at school
  
3. Trying new foods:
  - a. Doesn't make much sense because you probably won't like them anyway
  - b.\* Is a smart thing to do because it allows you to add a variety of foods
  - c. Is something only adults should do so they don't waste food
  
4. People should maintain a healthy weight in order:
  - a. To help prevent some major illnesses
  - b. To maintain self-esteem
  - c. To have better health
  - d.\* All of the above
  
5. Some things you can do to help maintain a healthy weight are:
  - a.\* Eat slowly, take small portions, avoid fats, salt, and too much sugar
  - b. Eat slowly, eat all you want, avoid fats, salt, and too much sugar
  - c. Eat everything anyone offers you, but eat slowly
  
6. Some ways to reduce fats in your diet are:
  - a. Eat lean meats, such as fish and poultry.
  - b. Eat broiled or baked foods instead of fried.
  - c. Use sugar substitutes instead of sugar.
  - d. Add snack foods such as potato chips and doughnuts.
  - e.\* Both a and b are correct
  
7. Which of the groups of foods listed below are the highest in fiber?
  - a.\* Fresh fruits and vegetables, whole grain products
  - b. Canned fruits and vegetables, cottage cheese
  - c. Fresh fruits and vegetables, white bread and potato chips
  - d. Doughnuts, white bread, and potato chips



**CORE TEST QUESTION BANK**

8. Fiber is important to the body because it helps:
- The circulation process
  - \* The digestion process
  - The breathing process
  - The muscle building process
9. Some ways to add more fiber and starch to your diet are:
- Eat a lot of fried foods
  - Eat plenty of desserts
  - Eat fresh fruits and green salads
  - Add whole grain ingredients to other foods
  - \* Both c and d answers are correct
10. Most canned or packaged food items purchased at the grocery store have had some form of sugar added to them.
- \* True
  - False
11. One way to identify if the food item has sugar is to read the label, and any ingredient that ends in "\_\_\_\_\_" means a form of sugar.
- "itrate"
  - "ide"
  - \* "ose"
  - "ium"
12. It is important for us to avoid too much sugar in our diets because:
- Excess sugar in the diet can cause you to become anorexic
  - \* Excess sugar in the diet can cause overweight and dental caries
  - Excess sugar in the diet can cause you to have too much fiber
  - Excess sugar in the diet can cause you to have too much muscle density
13. The technical term for salt is:
- Nitrate
  - Bicarbonate
  - Lactose
  - \* Sodium chloride
14. It is important for us to avoid too much salt in our diets because:
- Excess salt in the diet can cause you to become anorexic
  - Excess salt in the diet can cause you to have too much fiber
  - \* Excess salt in the diet can cause you to gain weight and increase your blood pressure
  - Excess salt in the diet can cause you to eat too much



## CORE TEST QUESTION BANK

15. Match the terms on the left with the definitions on the right by putting the letter of the term in the space before the definition.
- |    |                  |              |   |
|----|------------------|--------------|---|
| a. | Variety          | <u>  c  </u> | Fats, usually of animal origin, which are solid at room temperature                   |
| b. | Healthy weight   | <u>  a  </u> | A wide selection  |
| c. | Saturated fat    | <u>  e  </u> | A food component known as a carbohydrate; is an aid to digestion                      |
| d. | Cholesterol      | <u>  d  </u> | A waxy, fat-like substance found in large amounts in some fats that can clog arteries |
| e. | Starch and Fiber | <u>  b  </u> | A moderate weight for a person's height and bone structure                            |
16. Good nutrition is important to everyone because it affects our mental alertness and our physical endurance.
- a.\* True  
b. False
17. Put a check by each item that is one of the dietary guidelines established by the U.S.D.A. There are seven (7) correct answers.
- |               |    |   |
|---------------|----|---|
| <u>  *  </u>  | a. | Eat a variety of foods                                |
| <u>      </u> | b. | Eat a lot of your favorite foods                      |
| <u>  *  </u>  | c. | Maintain healthy weight                               |
| <u>  *  </u>  | d. | Avoid too much fat, saturated fat, and cholesterol    |
| <u>  *  </u>  | e. | Eat foods with adequate starch and fiber              |
| <u>      </u> | f. | Eat only one dessert per day                          |
| <u>  *  </u>  | g. | Avoid too much sugar                                  |
| <u>  *  </u>  | h. | Avoid too much salt (sodium)                          |
| <u>  *  </u>  | i. | If you drink alcoholic beverages, do so in moderation |
| <u>      </u> | j. | Read food labels                                      |



## CORE TEST QUESTION BANK

**20.0001-0416** *List the six basic types of nutrients.*

1. Which of the following groups are the six basic nutrients that our bodies require?

a. \_\_\_\_\_ b. \_\_\_\*\_\_\_ c. \_\_\_\_\_

Calories	Carbohydrates	Water
Protein	Protein	Carbohydrates
Vitamins	Vitamins	Vitamins
Minerals	Minerals	Meats
Fats	Fats	Fats
Water	Water	Fiber

**20.0001-0414** *Define nutrition terms.*

1. "Saturated" fats should be avoided when possible because they:

- Can cause the body to form waxy-like deposits called cholesterol in our blood vessels
- Are the hardest type of foods for your body to eliminate
- Can cause problems for the circulatory system
- \* All of the above answers are correct

2. Some examples of "saturated" fats are:

- Shortening, salt, margarine, and butter
- Sugar, shortening, oils, margarine, and butter
- \* Shortening, margarine, and butter

3. Variety means:

- A wide selection of your favorite foods
- \* A wide selection of all kinds of foods
- A limited selection of all kinds of foods

4. To maintain good health, one should eat:

- A wide selection of your favorite foods
- \* A wide selection of all kinds of foods
- A limited selection of all kinds of foods

5. Eating a wide variety of foods will generally provide:

- \* All of the basic nutrients one needs
- Most of the basic nutrients one needs
- A limited amount of the basic nutrients one needs

**CORE TEST QUESTION BANK**

6. Fats which are in a liquid state at room temperature are generally:
  - a. Saturated
  - b.\* Polyunsaturated
  - c. Could be either one
  
7. Fats which are of vegetable origin are:
  - a. Saturated
  - b.\* Polyunsaturated
  - c. Could be either one
  
8. Fats which are of animal origin are:
  - a.\* Saturated
  - b. Polyunsaturated
  - c. Could be either one
  
9. Starch is one form of:
  - a. Protein
  - b. Minerals
  - c.\* Carbohydrates
  
10. Starch is mainly obtained from:
  - a. Meats
  - b. Vegetables
  - c.\* Grains and grain products
  - d. All of the above
  
11. Sodium chloride is the scientific term for:
  - a.\* Table salt
  - b. Sugar
  - c. Flour
  
12. Sodium intake should be:
  - a. Unlimited (not controlled)
  - b.\* Limited (controlled)
  
13. The term *moderation* means:
  - a. Using self-discipline when needed
  - b. Avoiding excess or extremes
  - c. Choosing foods carefully
  - d.\* All of the above

**CORE TEST QUESTION BANK**

14. Eating in moderation:
- Is no fun
  - \* Promotes good health
  - Doesn't make any sense
  - All of the above
15. A food component which has no nutrients but is an aid to digestion is:
- \* Fiber
  - Cholesterol
  - Starch
16. Having an adequate amount of fiber in our diets is necessary to keep our body systems functioning correctly.
- \* True
  - False
17. Some sources of fiber in the diet are: (name three)
- grain products      - fruits      - vegetables
18. A healthy weight is defined as:
- Always being skinny
  - Being as thin as possible for your height and bone structure
  - \* A reasonable weight for a person's height and bone structure
19. A "healthy" or "reasonable" weight means:
- Having the ability to do all types of physical activities without impairment
  - A weight that isn't causing other health problems
  - A weight that won't lead to other health problems later
  - \* All of the above
20. Cholesterol is:
- \* A fat-like substance found in large amounts in some fats
  - A fat-like substance found in large amounts in some fibers
  - A fat-like substance found in large amounts in some sodium
21. Eating foods high in cholesterol:
- Promotes a healthy lifestyle
  - Is good for the digestive system
  - \* Does not promote a healthy lifestyle
  - Both b and c answers are correct

**CORE TEST QUESTION BANK****20.0001-0419      *Analyze foods for nutritional value.***

1. The nutritional value of food depends on the ingredients found in the food.
  - a.\* True
  - b. False
  
2. Which of the following types of popcorn has the highest level of carbohydrates?
  - a. Plain popcorn
  - b.\* Popcorn with butterscotch bits and peanut butter
  - c. Popcorn with margarine and salt
  - d. Popcorn with margarine and a lot of spices added
  
3. Which of the following types of popcorn has the lowest level of salt (sodium)?
  - a.\* Plain popcorn
  - b. Popcorn with butterscotch bits and peanut butter
  - c. Popcorn with margarine and cheese added
  - d. Popcorn with margarine and a lot of spices added
  
4. What type of popcorn would you fix if you are concerned about your weight?
  - a. Popcorn with margarine and a lot of spices added
  - b. Popcorn with margarine and no salt
  - c.\* Plain popcorn
  - d. Popcorn with margarine and cheese added
  
5. Which type of popcorn would you fix if someone in your family needs to eat less sugar?
  - a. Popcorn with butterscotch bits and peanut butter
  - b. Popcorn with margarine, brown sugar, and corn syrup
  - c. Popcorn with margarine and cheese added
  - d. Popcorn with margarine and a lot of spices added
  - e.\* Either c or d
  
6. The main nutrients that plain popcorn adds to the diet are:
  - a. Starch and sugar
  - b. Starch and salt (sodium)
  - c. Sugar and salt (sodium)
  - d.\* Starch and fiber



## CORE TEST QUESTION BANK

**20.0001-0418** *Identify careers related to nutrition.*

1. People who become experts in working with the nutritive values of foods and planning nutritious meals are called:
  - a. Interns and doctors
  - b. Nurses and orderlies
  - c. Chefs and managers
  - d.\* Dietitians and nutritionists
  
2. Dietitians and nutritionists are often hired by: (Check each answer that is correct. There are four (4) correct answers.)
 

___*	Hospitals or Nursing Homes
___*	Restaurant Chains
___	Department Stores
___*	School Lunch Programs
___	Churches
___*	Athletic Programs
  
3. How much training does it require to become a dietitian or a nutritionist?
  - a. No college training required
  - b. Two years of college
  - c. Four years of college
  - d.\* Four years of college plus one year of internship

